2/20 #6

OIPE

RAW SEQUENCE LISTING   DATE: 02/19/2002
PATENT APPLICATION: US/09/931,375A   TIME: 14:35:35

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 3 <110> APPLICANT: WARMAN, Matthew L.
 4        GONG, Yaoqin
 5        OLSEN, Bjorn R.
 6        RAWADI, Georges
 7        ROMAN-ROMAN, Sergio
 9 <120> TITLE OF INVENTION: REGULATOR GENE AND SYSTEM USEFUL FOR THE DIAGNOSIS AND
THERAPY OF
10        OSTEOPOROSIS
12 <130> FILE REFERENCE: 38464-0004
14 <140> CURRENT APPLICATION NUMBER: US 09/931,375A
15 <141> CURRENT FILING DATE: 2001-08-17
17 <150> PRIOR APPLICATION NUMBER: US 60/304,851
18 <151> PRIOR FILING DATE: 2001-07-13
20 <150> PRIOR APPLICATION NUMBER: US 60/234,337
21 <151> PRIOR FILING DATE: 2000-09-22
23 <150> PRIOR APPLICATION NUMBER: US 60/226,119
24 <151> PRIOR FILING DATE: 2000-08-18
26 <160> NUMBER OF SEQ ID NOS: 89
28 <170> SOFTWARE: PatentIn version 3.0
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31 <211> LENGTH: 5063
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182 cagcatggcc ccttcacagg catcgcatgc ggaaagtcca tgatgagctc cgtgagcctg   4440
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188 ccggccacgg acccctccct gtacaacatg gacatgttct actcttcaaa cattccggcc   4620
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192 agcaccgacg tgtgtgacag cgactacagc gccagccgct ggaaggccag caagtactac   4740
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218                 20                  25                  30
220 Pro Leu Leu Leu Phe Ala Asn Arg Arg Asp Val Arg Leu Val Asp Ala
221             35                  40                  45
223 Gly Gly Val Lys Leu Glu Ser Thr Ile Val Val Ser Gly Leu Glu Asp
224     50                  55                  60
226 Ala Ala Ala Val Asp Phe Gln Phe Ser Lys Gly Ala Val Tyr Trp Thr
227 65                  70                  75                  80
229 Asp Val Ser Glu Glu Ala Ile Lys Gln Thr Tyr Leu Asn Gln Thr Gly
230                 85                  90                  95
232 Ala Ala Val Gln Asn Val Val Ile Ser Gly Leu Val Ser Pro Asp Gly
233             100                 105                  110
235 Leu Ala Cys Asp Trp Val Gly Lys Lys Leu Tyr Trp Thr Asp Ser Glu
236             115                 120                 125
238 Thr Asn Arg Ile Glu Val Ala Asn Leu Asn Gly Thr Ser Arg Lys Val
239     130                 135                 140
241 Leu Phe Trp Gln Asp Leu Asp Gln Pro Arg Ala Ile Ala Leu Asp Pro
242 145                 150                 155                 160
244 Ala His Gly Tyr Met Tyr Trp Thr Asp Trp Gly Glu Thr Pro Arg Ile
245             165                 170                 175
247 Glu Arg Ala Gly Met Asp Gly Ser Thr Arg Lys Ile Ile Val Asp Ser
248             180                 185                 190
250 Asp Ile Tyr Trp Pro Asn Gly Leu Thr Ile Asp Leu Glu Glu Gln Lys
251             195                 200                 205
253 Leu Tyr Trp Ala Asp Ala Lys Leu Ser Phe Ile His Arg Ala Asn Leu
254         210                 215                 220
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260                 245             250                 255
262 Thr Arg Ser Ile His Ala Cys Asn Lys Arg Thr Gly Gly Lys Arg Lys
263             260             265             270
265 Glu Ile Leu Ser Ala Leu Tyr Ser Pro Met Asp Ile Gln Val Leu Ser
266         275             280             285
268 Gln Glu Arg Gln Pro Phe Phe His Thr Arg Cys Glu Glu Asp Asn Gly
269     290             295             300
271 Gly Cys Ser His Leu Cys Leu Leu Ser Pro Ser Glu Pro Phe Tyr Thr
272 305             310             315                     320
274 Cys Ala Cys Pro Thr Gly Val Gln Leu Gln Asp Asn Gly Arg Thr Cys
275             325             330             335
277 Lys Ala Gly Ala Glu Glu Val Leu Leu Leu Ala Arg Arg Thr Asp Leu
278         340             345             350
280 Arg Arg Ile Ser Leu Asp Thr Pro Asp Phe Thr Asp Ile Val Leu Gln
281         355             360             365
283 Val Asp Asp Ile Arg His Ala Ile Ala Ile Asp Tyr Asp Pro Leu Glu
284     370             375             380
286 Gly Tyr Val Tyr Trp Thr Asp Asp Glu Val Arg Ala Ile Arg Arg Ala
287 385             390             395                     400
289 Tyr Leu Asp Gly Ser Gly Ala Gln Thr Leu Val Asn Thr Glu Ile Asn
290             405             410             415
292 Asp Pro Asp Gly Ile Ala Val Asp Trp Val Ala Arg Asn Leu Tyr Trp
293             420             425             430
295 Thr Asp Thr Gly Thr Asp Arg Ile Glu Val Thr Arg Leu Asn Gly Thr
296         435             440             445
298 Ser Arg Lys Ile Leu Val Ser Glu Asp Leu Asp Glu Pro Arg Ala Ile
299     450             455             460
301 Ala Leu His Pro Val Met Gly Leu Met Tyr Trp Thr Asp Trp Gly Glu
302 465             470             475                     480
304 Asn Pro Lys Ile Glu Cys Ala Asn Leu Asp Gly Gln Glu Arg Arg Val
305             485             490             495
307 Leu Val Asn Ala Ser Leu Gly Trp Pro Asn Gly Leu Ala Leu Asp Leu
308         500             505             510
310 Gln Glu Gly Lys Leu Tyr Trp Gly Asp Ala Lys Thr Asp Lys Ile Glu
311         515             520             525
313 Val Ile Asn Val Asp Gly Thr Lys Arg Arg Thr Leu Leu Glu Asp Lys
314     530             535             540
316 Leu Pro His Ile Phe Gly Phe Thr Leu Leu Gly Asp Phe Ile Tyr Trp
317 545             550             555                     560
319 Thr Asp Trp Gln Arg Arg Ser Ile Glu Arg Val His Lys Val Lys Ala
320             565             570                 575
322 Ser Arg Asp Val Ile Ile Asp Gln Leu Pro Asp Leu Met Gly Leu Lys
323         580             585             590
325 Ala Val Asn Val Ala Lys Val Val Gly Thr Asn Pro Cys Ala Asp Arg
326         595             600             605
328 Asn Gly Gly Cys Ser His Leu Cys Phe Phe Thr Pro His Ala Thr Arg
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335                645                650                655
337 Arg Ile Ser Leu Glu Thr Asn Asn Asn Asp Val Ala Ile Pro Leu Thr
338                660                665                670
340 Gly Val Lys Glu Ala Ser Ala Leu Asp Phe Asp Val Ser Asn Asn His
341          675                680                685
343 Ile Tyr Trp Thr Asp Val Ser Leu Lys Thr Ile Ser Arg Ala Phe Met
344       690                695                700
346 Asn Gly Ser Ser Val Glu His Val Val Glu Phe Gly Leu Asp Tyr Pro
347 705                710                715                720
349 Glu Gly Met Ala Val Asp Trp Met Gly Lys Asn Leu Tyr Trp Ala Asp
350                725                730                735
352 Thr Gly Thr Asn Arg Ile Glu Val Ala Arg Leu Asp Gly Gln Phe Arg
353                740                745                750
355 Gln Val Leu Val Trp Arg Asp Leu Asp Asn Pro Arg Ser Leu Ala Leu
356          755                760                765
358 Asp Pro Thr Lys Gly Tyr Ile Tyr Trp Thr Glu Trp Gly Gly Lys Pro
359       770                775                780
361 Arg Ile Val Arg Ala Phe Met Asp Gly Thr Asn Cys Met Thr Leu Val
362 785                790                795                800
364 Asp Lys Val Gly Arg Ala Asn Asp Leu Thr Ile Asp Tyr Ala Asp Gln
365                805                810                815
367 Arg Leu Tyr Trp Thr Asp Leu Asp Thr Asn Met Ile Glu Ser Ser Asn
368                820                825                830
370 Met Leu Gly Gln Glu Arg Val Val Ile Ala Asp Asp Leu Pro His Pro
371          835                840                845
373 Phe Gly Leu Thr Gln Tyr Ser Asp Tyr Ile Tyr Trp Thr Asp Trp Asn
374       850                855                860
376 Leu His Ser Ile Glu Arg Ala Asp Lys Thr Ser Gly Arg Asn Arg Thr
377 865                870                875                880
379 Leu Ile Gln Gly His Leu Asp Phe Val Met Asp Ile Leu Val Phe His
380                885                890                895
382 Ser Ser Arg Gln Asp Gly Leu Asn Asp Cys Met His Asn Asn Gly Gln
383          900                905                910
385 Cys Gly Gln Leu Cys Leu Ala Ile Pro Gly Gly His Arg Cys Gly Cys
386          915                920                925
388 Ala Ser His Tyr Thr Leu Asp Pro Ser Ser Arg Asn Cys Ser Pro Pro
389       930                935                940
391 Thr Thr Phe Leu Leu Phe Ser Gln Lys Ser Ala Ile Ser Arg Met Ile
392 945                950                955                960
394 Pro Asp Asp Gln His Ser Pro Asp Leu Ile Leu Pro Leu His Gly Leu
395                965                970                975
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401          995                1000               1005
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VERIFICATION SUMMARY
PATENT APPLICATION: US/09/931,375A

DATE: 02/19/2002
TIME: 14:35:36

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Output Set: **N:\CRF3\02192002\I931375A.raw**